

ABSTRACT OF THE DISCLOSURE

A photonic network packet routing method includes the steps of optically encoding destination address information attached to an IP packet using light attributes, discriminating the encoded address information of the IP packet by optical correlation processing, switching to an output path for the IP packet based on a result of the discrimination, and outputting the IP packet labeled with prescribed address information on the output path selected by the switching step. A packet router for a photonic network includes a device for encoding by use of light attributes destination address information attached to an IP packet, a branching device for sending the IP packet having the encoded destination address information onto two paths, an address processing device for subjecting one IP packet received from the branching device to optical correlation processing and outputting a switch control signal based on a result of the discrimination, and a switch device for selectively outputting the packet by switching an output path of the other packet received from the branching device based on the address control signal from the address control device.